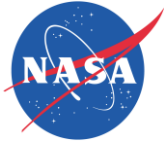


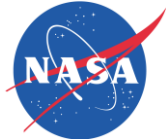
Federated Giovanni

C Lynnes

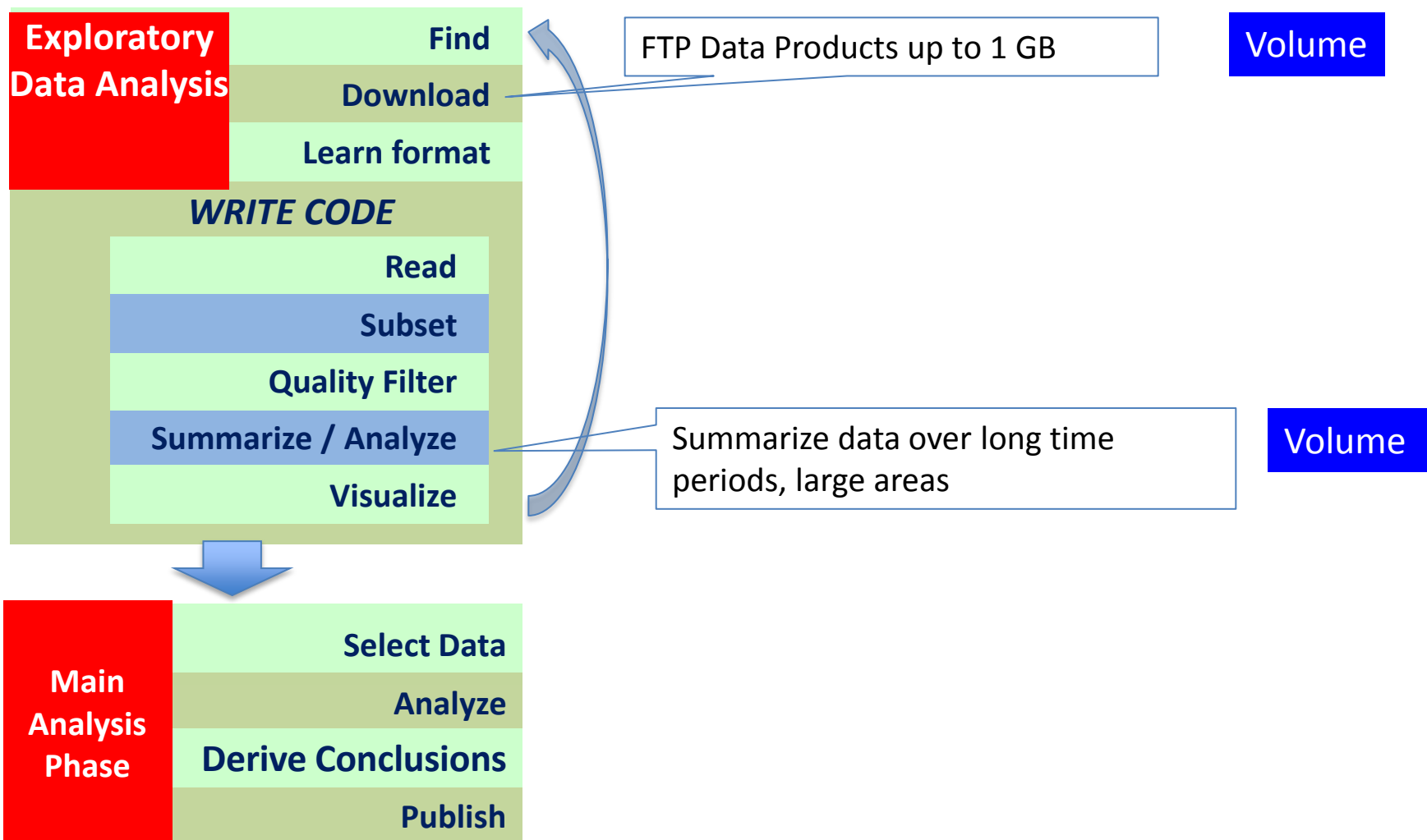


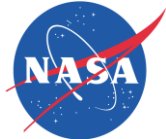
Sharables

- Federated Giovanni
 - Hosted Service
 - Virtual Machine
 - Source Code
 - Variable-level Metadata
 - AESIR database and EDDA interface
- Color palettes
 - Style Layer Descriptor URLs
- User-sharable (via URL)
 - Giovanni Workflows
 - OGC-Accessible Services (WMS, WCS)

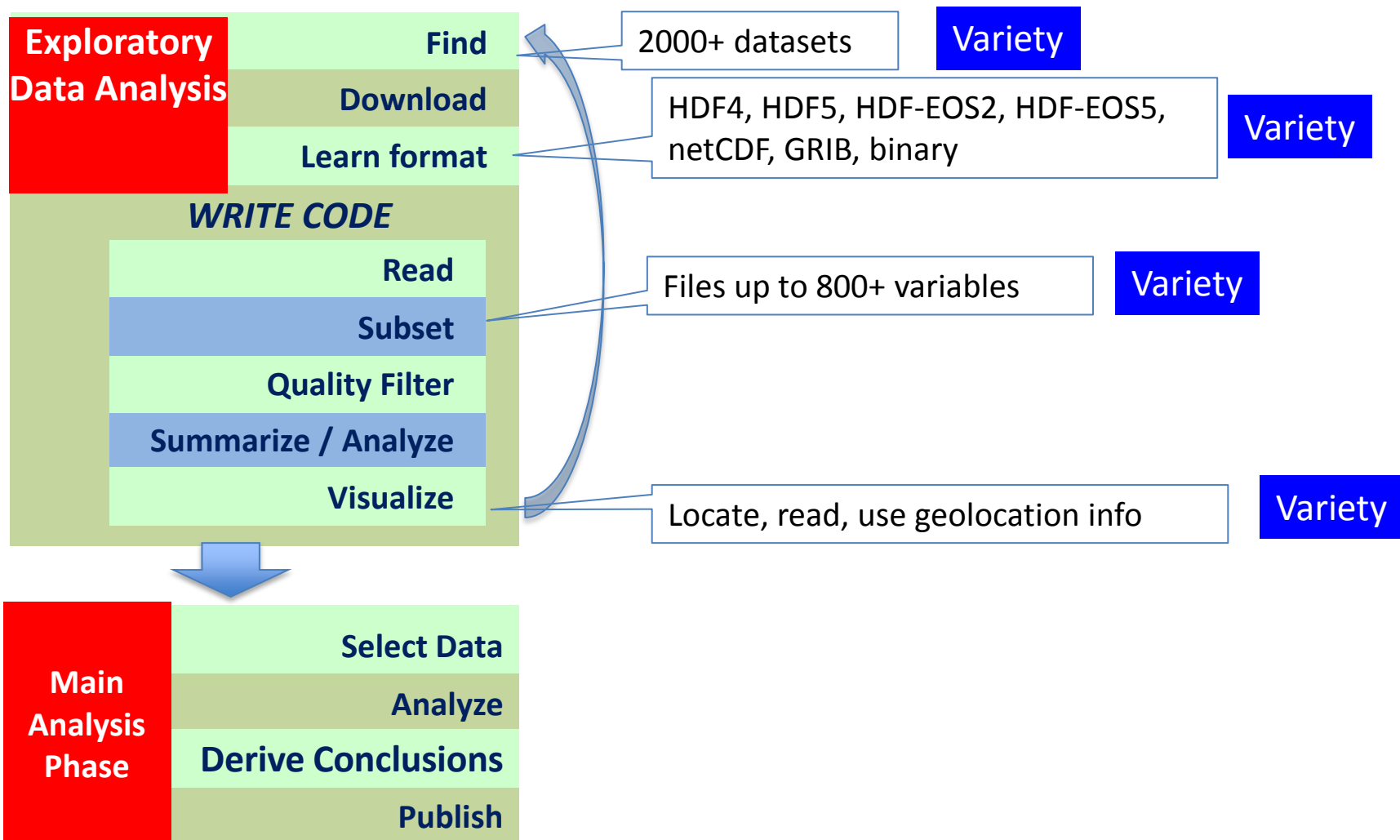


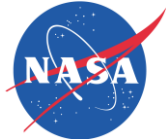
Why So Difficult?



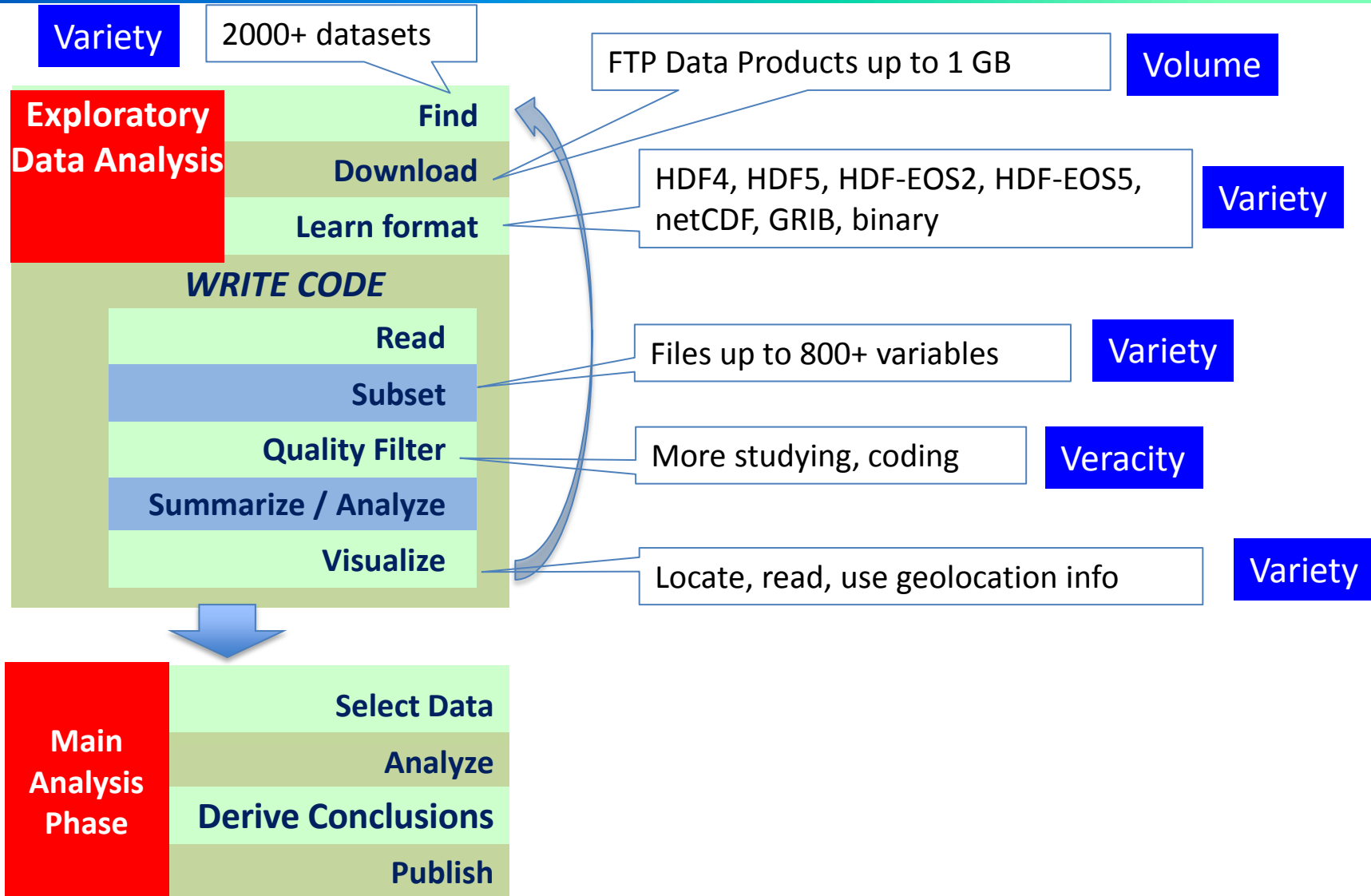


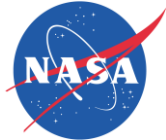
Why So Difficult?



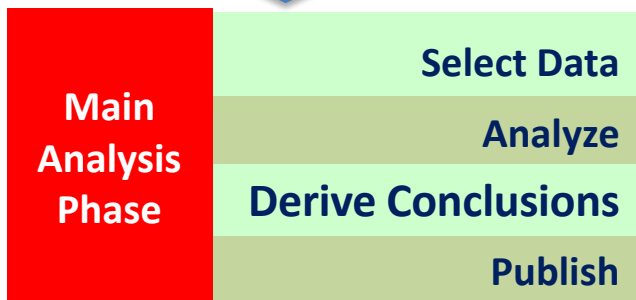
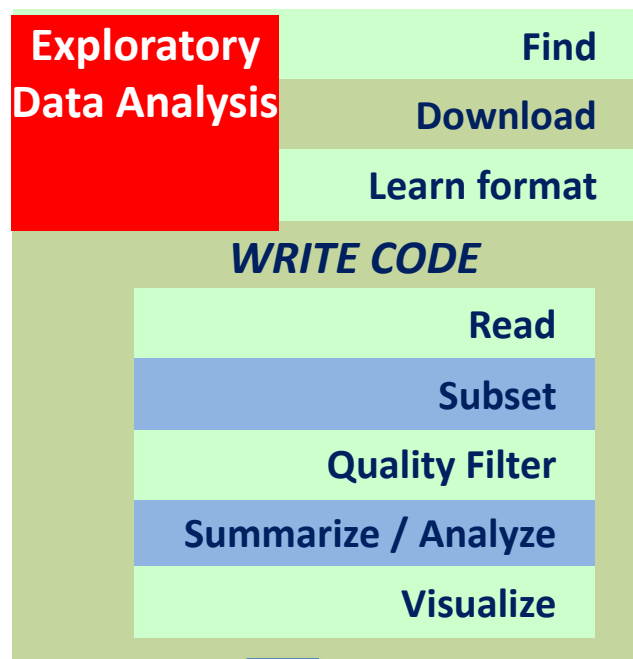


Why So Difficult?



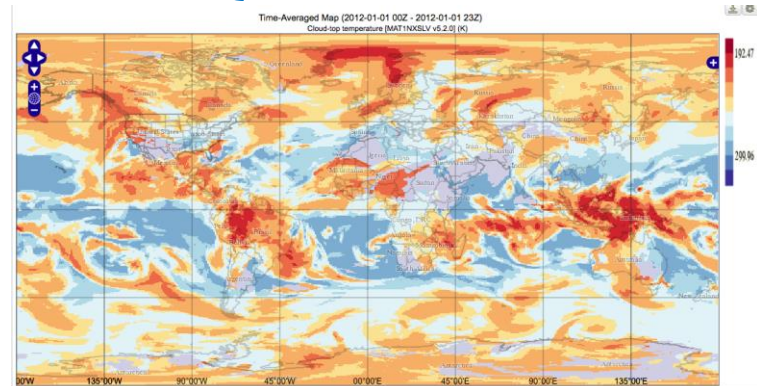
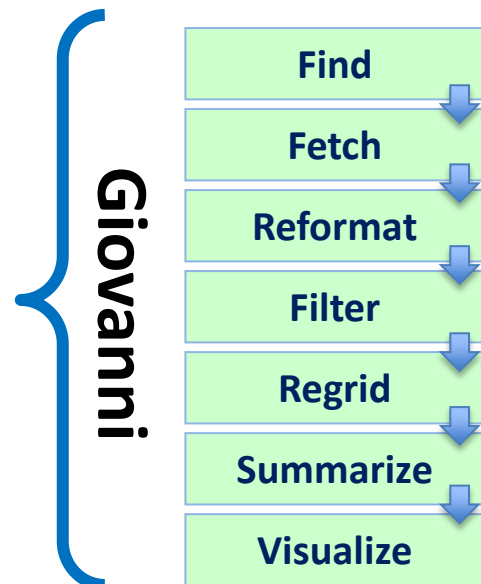


Giovanni provides (relatively) rapid exploration of datasets



Giovanni provides
*Server-Side,
Quick-Start
Exploratory Data
Analysis:*
no coding necessary
no downloads necessary

Web-based Services





Giovanni User Interface

Giovanni The Bridge Between Data and Science

v 4.4 [Release Notes](#) [Browser Compatibility](#) [Known Issues](#)

Version 003 of SeaWiFS Deep Blue Level 3 variables are no longer available... [1 of 2 messages] [Read More](#)

Select Plot

- ☐ Map ☒ Correlation Map ☐ Scatter Plot
☐ Interactive Scatter Plot ☐ Time-Averaged Scatter Plot
☐ Time Series ☐ Vertical Profile

Select Date Range (UTC)

YYYY-MM-DD

1999-01-01 00 hrs to

1999-12-31 23 hrs

Valid Range: 1997-12-01 to 2011-06-29

Select Region (Bounding Box)

Format: West, South, East, North

-180, -50, 180, 50



Select Variables

Disciplines

- ☐ Aerosols (25)
☐ Atmospheric Dynamics (6)
☒ Hydrology (2)
☐ Water and Energy Cycle (9)

Measurements

- ☐ Aerosol Index (0)
☐ Air Temperature (0)
☐ Angstrom Exponent (0)
☐ Component Aerosol Optical Depth (0)
☐ Latent Heat Flux (0)
☐ Precipitation (2)

Number of matching Variables: 2 of 36

Total Variable(s) included in Plot: 2

Keyword :

Search

Clear

	Variable Name	Vertical Dimension	Resolution
<input checked="" type="checkbox"/>	Daily Rainfall Estimate from 3B42 V7, TRMM and other sources, 0.25 deg. [TRMM_3B42_daily v7]	-	0.25 x 0.25 °
<input checked="" type="checkbox"/>	Daily Rainfall Estimate from 3B42 V6, TRMM and other sources, 0.25 deg. [TRMM_3B42_daily v6]	-	0.25 x 0.25 °

Help

Reset

Clear

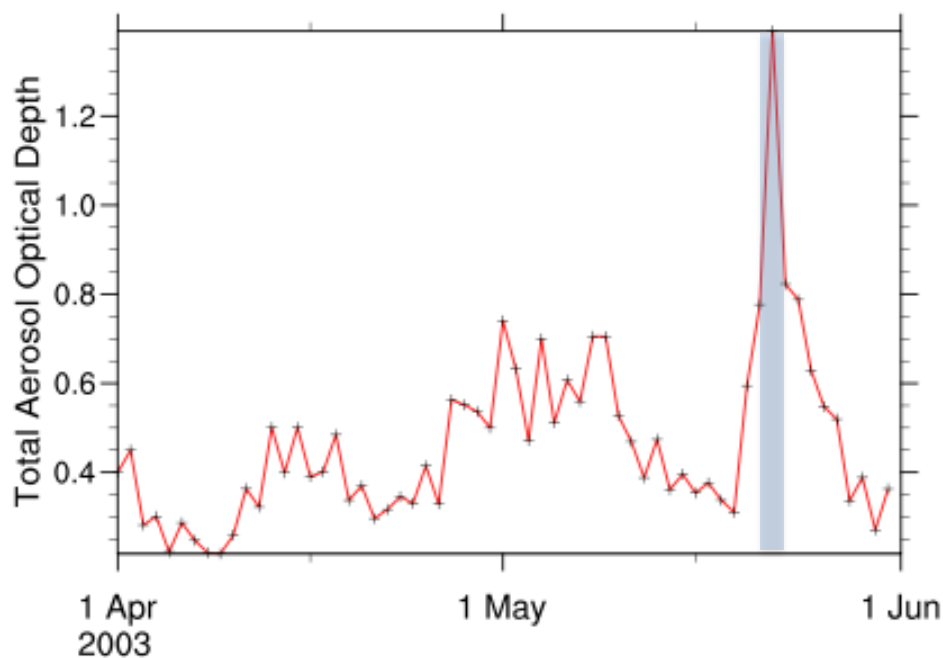
Feedback

Plot Data

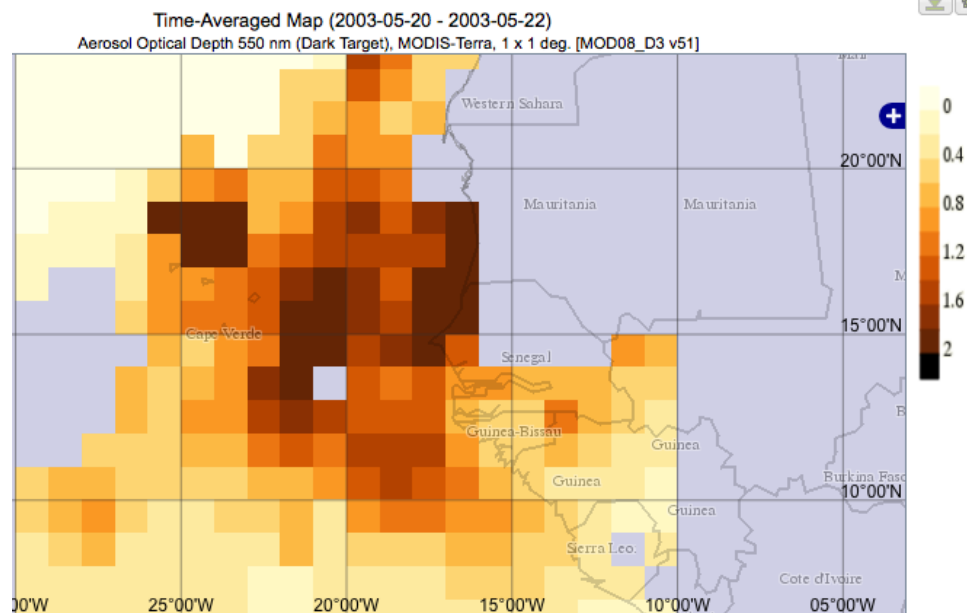


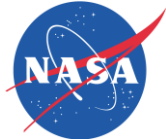
Example: Exploring in Time and Space

MOD08_D3 v51 Area-Averaged Time Series
2003-04-01 - 2003-05-31, Region 30W, 5N, 10W, 25N



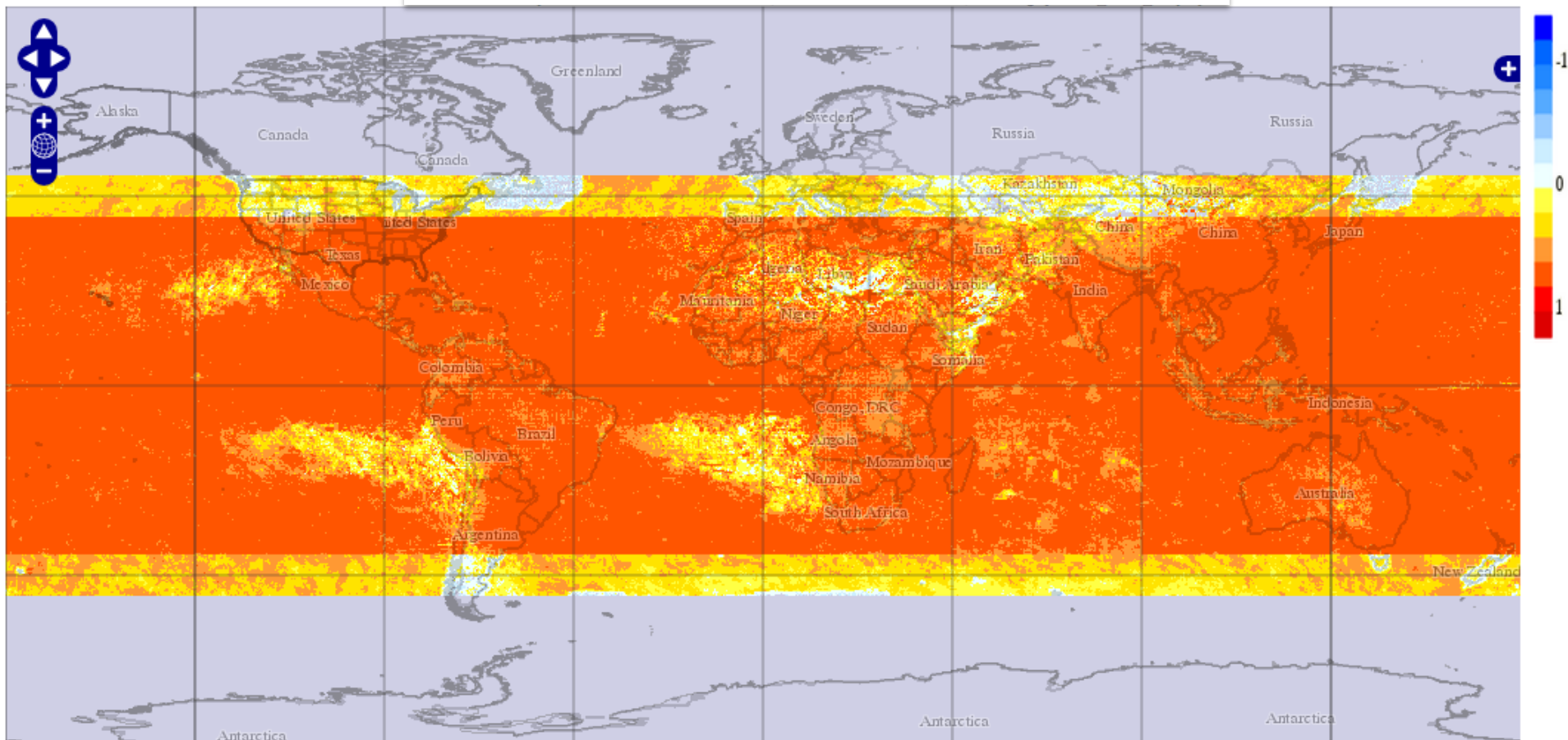
Time Averaged Map 20-22 May





Correlation Map: TRMM Rainfall Versions 6 vs. 7

1998-1999



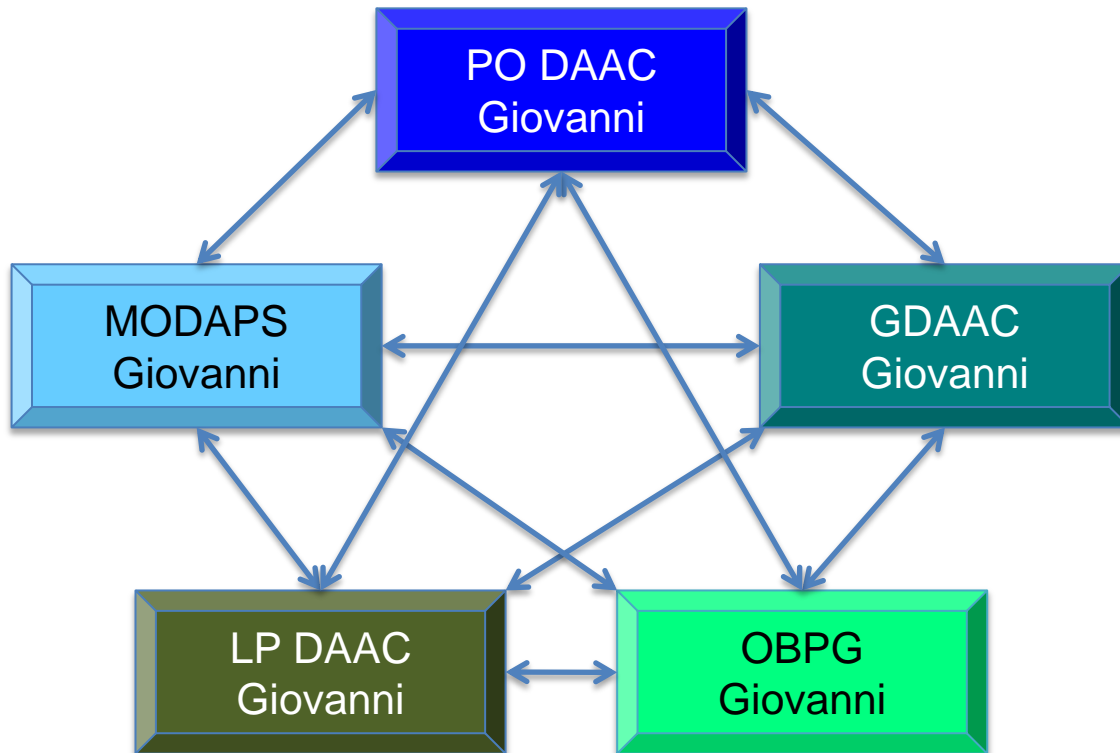
Additional relative uncertainty metrics coming soon...

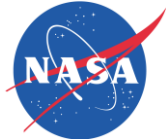
See Z. Liu et al., H42-F08, Thurs. 12:05-12:20 @ MW 3022



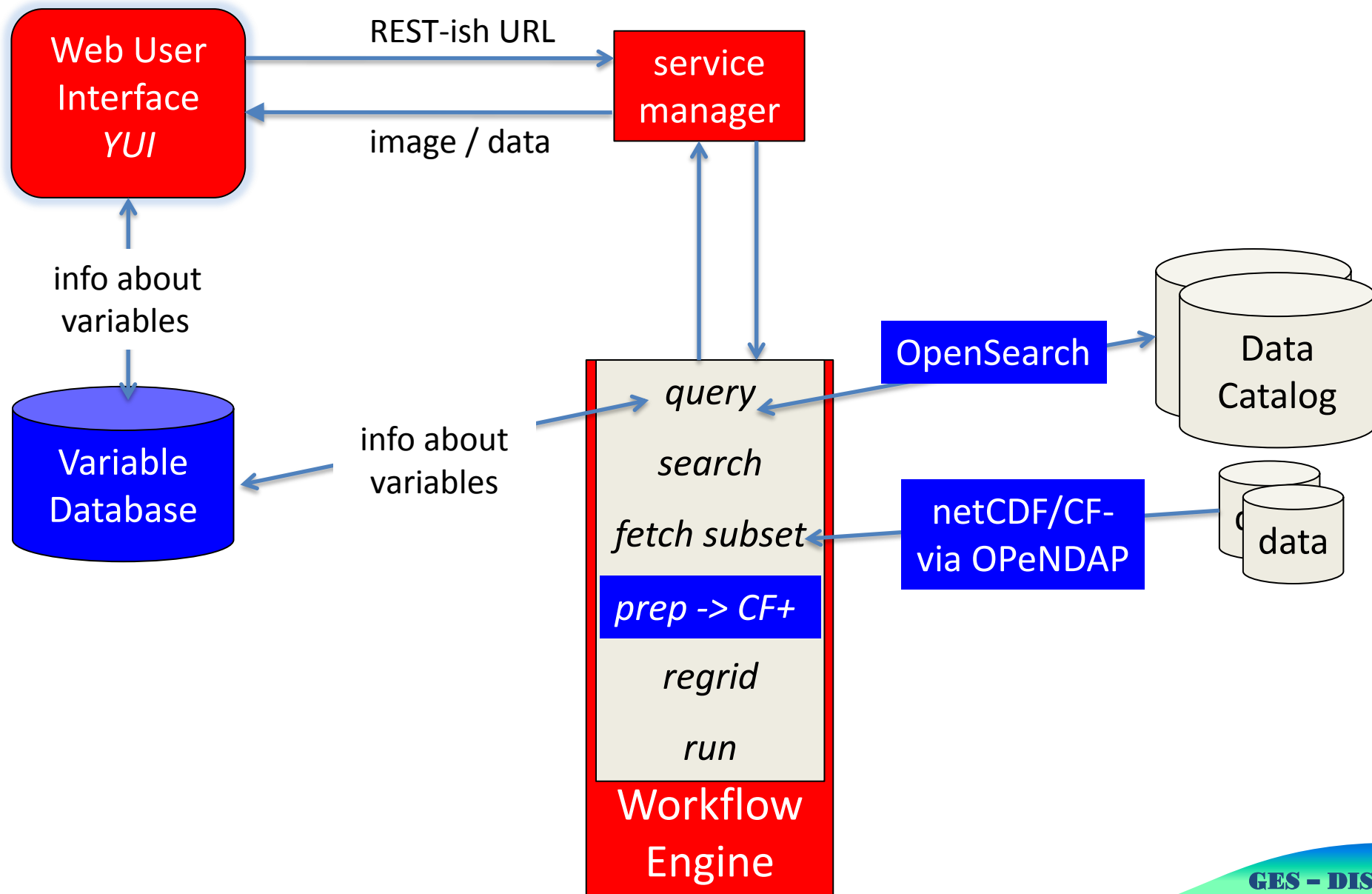
Federated Giovanni will increase the availability of data in Giovanni

Ongoing now: Funded by NASA-ACCESS: 2014-2016





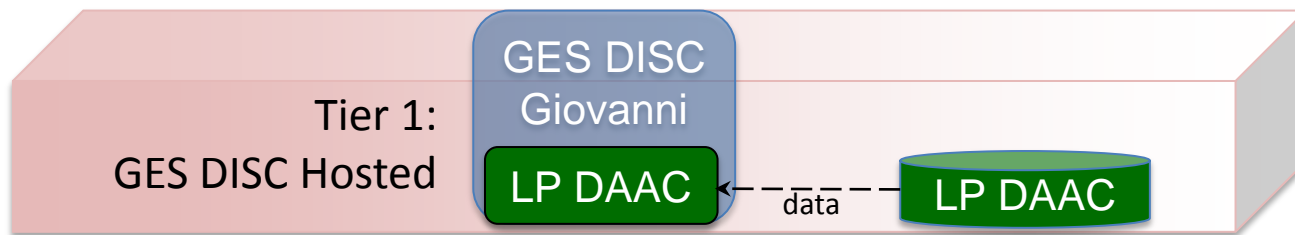
Giovanni-4 architecture leverages standards





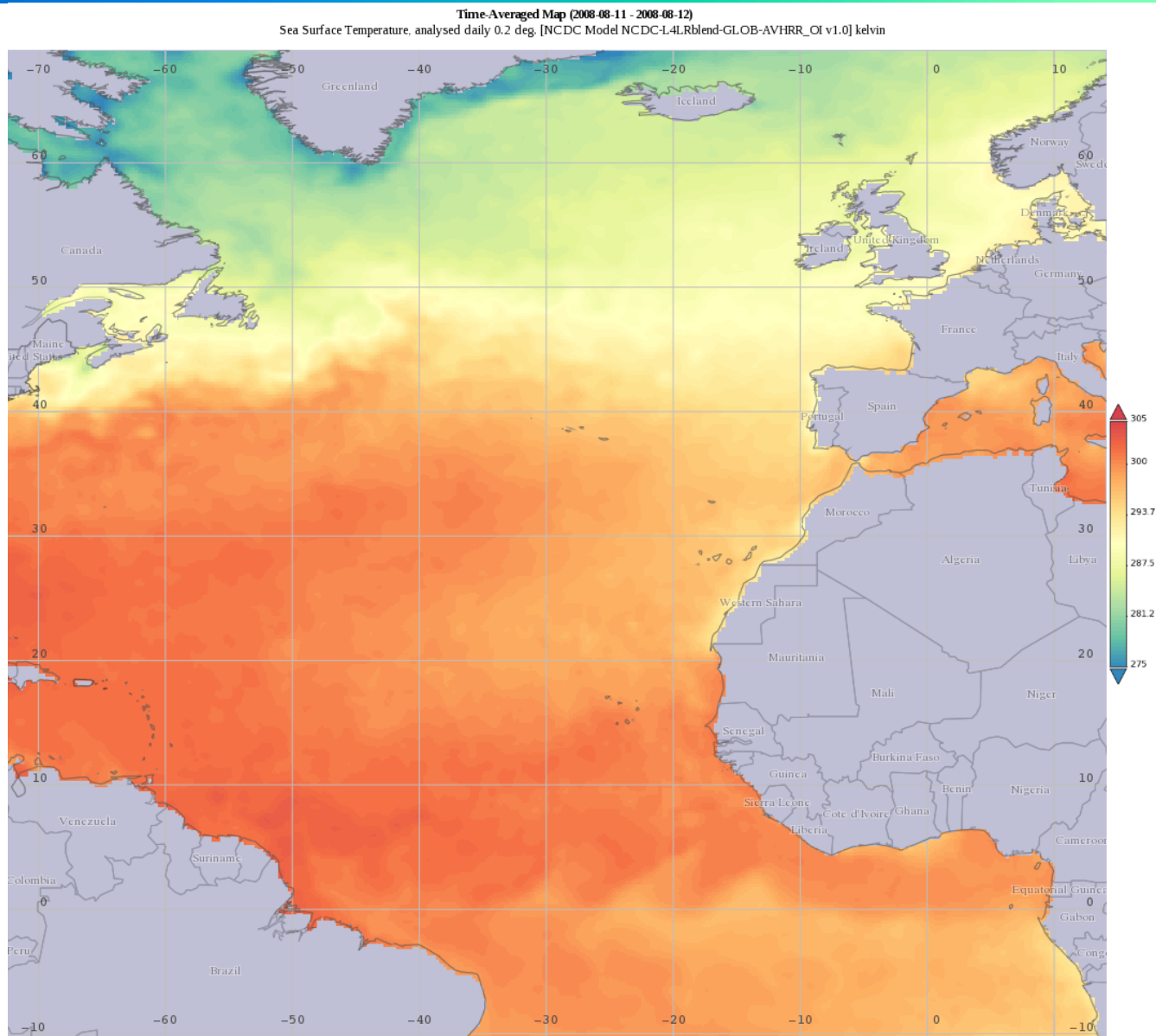
3 Tiers of Federation

Giovanni will be sharable as a “Hosted Service” (Tier 1)





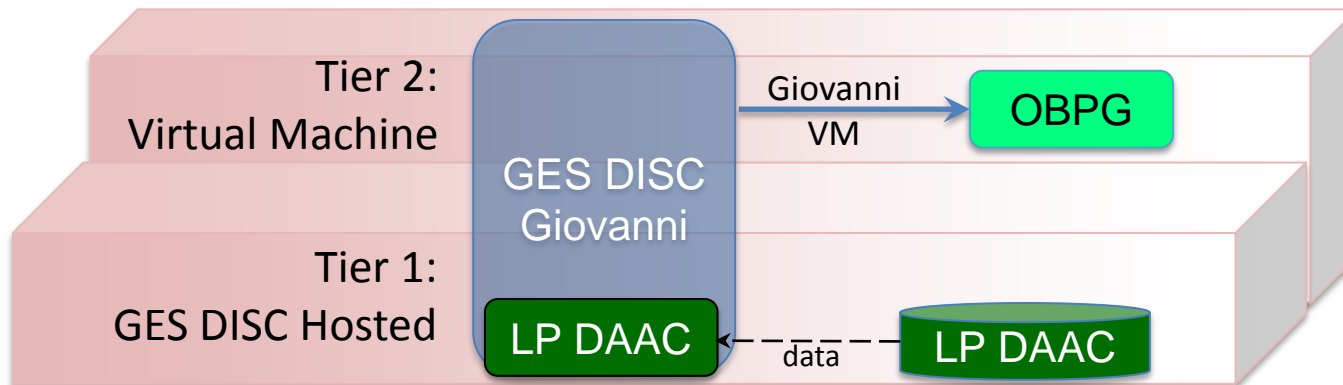
SST from PO.DAAC





3 Tiers of Federation

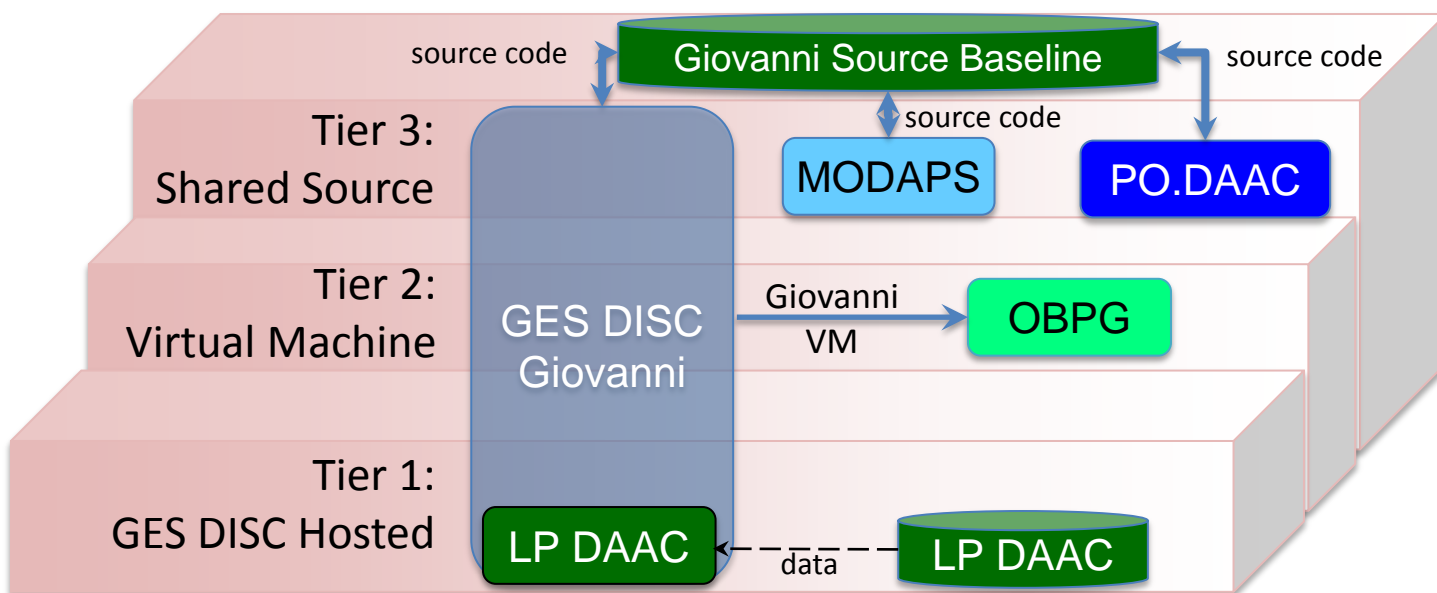
Giovanni will be sharable as a Virtual Machine





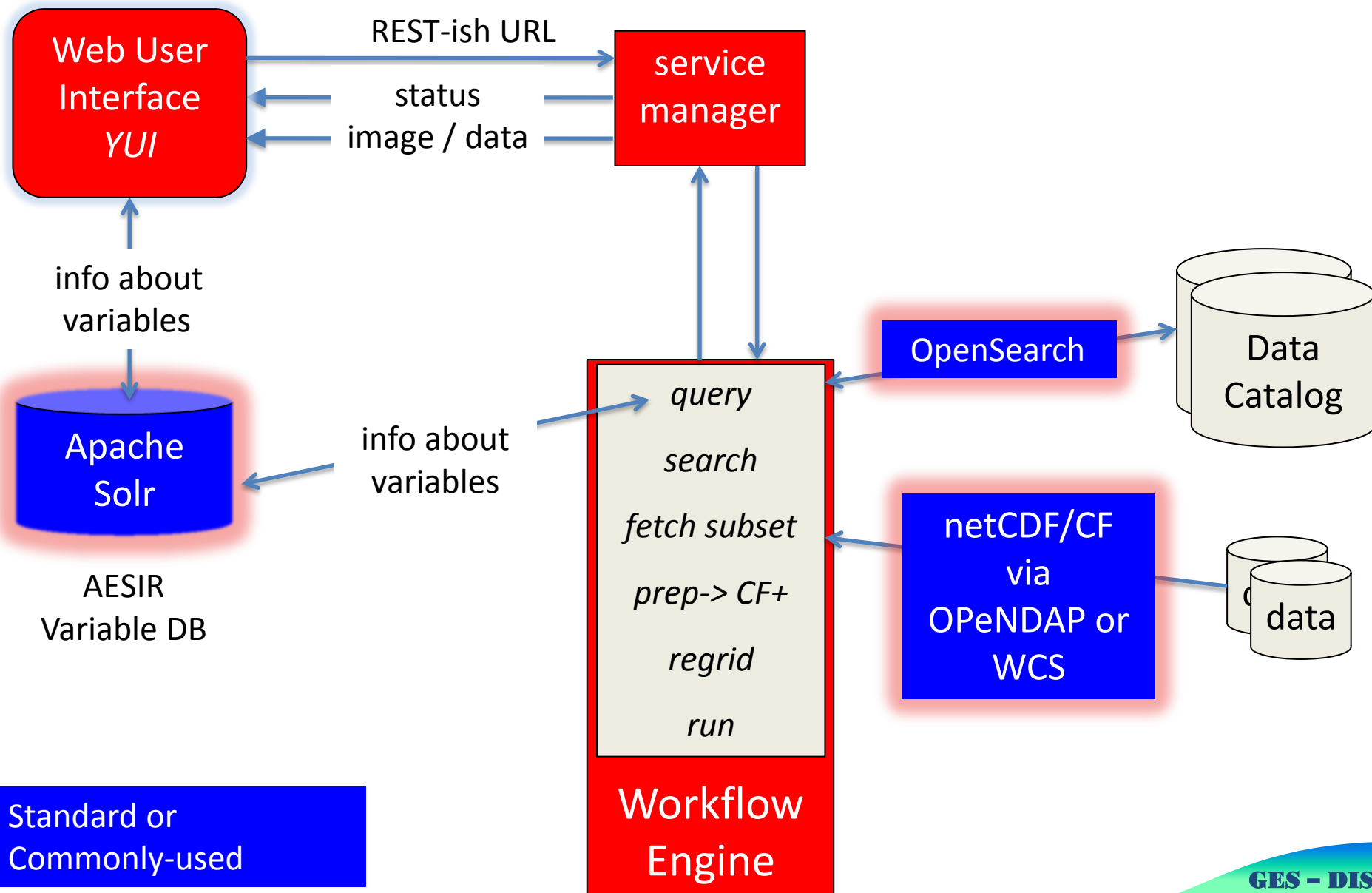
3 Tiers of Federation

Giovanni's code will be sharable within ECC
It will also be available to the public as open source





Giovanni-4 Architecture





Content Subsystem: GCMD, AESIR, OPeNDAP & EDDA

GCMD

Global Change Master Directory
Discover Earth science data and information

Home

Data Sets

Selected Search Refinements

Free-text: GES_DISC_AIRX3STD_V006

Refine by Free-text

GES_DISC_AIRX3STD_V006 Refine Clear

To learn about additional types of searches you can perform, click on the links below.

View Full Explanation

by Category

Filter: Filter List Reset

Science Keywords
Platforms
Instruments
Data Centers
Locations
Projects

Metadata

Open in new window Get permalink Print

Aqua AIRS Level 3 Daily Standard Physical Retrieval (AIRS+AMSU) V006 (AIRX3STD) at GES DISC

Entry ID: GES_DISC_AIRX3STD_V006

[Get Data] [Update this Record]

Summary

Abstract: The AIRS Level 3 Daily Gridded Product contains standard retrieval means, standard deviations and input counts. Each file covers a temporal period of 24 hours for either the descending (equatorial crossing North to South @1:30 AM local time) or ascending (equatorial crossing South to North @1:30 PM local time) orbit. The data starts at the international dateline and progresses westward (as do the ...)

Click to view more

Related URL

Link: GET DATA > ON-LINE ARCHIVE

Description: Access the AIRS/Aqua Level 3 daily standard physical retrieval product (Without HSB) by FTP.

Click to view more

Multimedia Sample

Geographic Coverage

View full image

Caption: Sample data of AIRX3STD

Description: Sample data of the "AIRS/Aqua Level 3 Daily Standard Physical Retrieval (AIRS+AMSU) V006 (AIRX3STD) at GES DISC"

Spatial coordinates

N: 90.0 S: -90.0 E: 180.0 W: -180.0

EDDA Editor of Data Definitions for AESIR

Tutorial Glossary

Home → Browse and Edit

Select a data set from the list below:

Search for data sets: Show 25 data sets

GCMD DIF ID	Short Name	Version
GES_DISC_AIRX3STD_V006 [Read More]	AIRS3STD	006
GES_DISC_AIRX3STD_V006 [Read More]	AIRX3STD	006

EDDA - Editor of Data Definitions for AESIR

Home → Browse and Edit → AIRX3STD.006

Aqua AIRS Level 3 Daily Standard Physical Retrieval (AIRS+AMSU) (AIRX3STD)

► Data Set Attributes (Read Only)

The following data fields are available from the sample granule file for this data set. Please choose one to retrieve its information, or choose to add an empty field.

[AIRX3STD_006_Topography] Retrieve Field

▼ Data Fields (40)

▼ TSI Air Temperature (Daytime/Ascending) [AIRX3STD_006_Temperature_A] Last published date: 2014-04-28T18:47:24.67Z

G3 SDS Name

Long Name *

Variable Name *

Color Palettes

Measurements *

Temperature_A

Air Temperature (Daytime/Ascending)

e.g.: Aerosol Optical Depth 550 nm (Dark Target), MODIS-Aqua, 1 x 1 deg.

Temperature_A_TempPrsLvls_A

e.g.: Angstrom_Exponent_1_Ocean_QA_Mean

0 310 # 11 Atmospheric Temperature Color Map Edit Delete

Add Color Palettes

Aerosol Index

Aerosol Optical Depth

Air Pressure

Air Temperature

OPeNDAP

OPeNDAP Server Dataset Access Form

Action: Get ASCII Get as NetCDF Binary (DAP) Object Show Help

Data URL: http://cdisc.gsfc.nasa.gov/80/opendap/Aqua_AIRS_Level3/AIRX3STD.006/2003/AIRS200

Global Attributes:

HDF_GLOBAL.HDFEOSVersion: HDFEOS_V2.18

HDF_GLOBAL.Identifier_product_id: 16.3087/AQUA/AIRS/DATA302

HDF_GLOBAL.Identifier_product_doi_authority: http://dx.doi.org/

CoreMetadata.INVENTORYMETADATA.CROUPTYPE: MASTERGROUP

CoreMetadata.INVENTORYMETADATA.ECOTAGGRANULE.LOCALGRANULEID.NUM_VAL: 1

Variables:

☐ TotalCounts_A: Array of 16 bit Integers [Latitude = 0.179][Longitude = 0.359]

Latitude: Longitude:

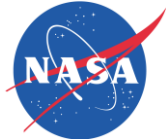
_FillValue: 0

☐ SurfPres_Forecast_A: Array of 32 bit Reals [Latitude = 0.179][Longitude = 0.359]

Latitude: Longitude:

_FillValue: -9999.000000





Giovanni-4 selections are encoded in the URL Making them Sharable and Reproducible

`http://giovanni.gsfc.nasa.gov/giovanni/#`

`service=INTERACTIVE_MAP&`

`starttime=2001-01-01T00:00:00Z&`

`endtime=2001-01-31T23:59:59Z&`

`bbox=-124.4531,24.2578,-68.2031,52.3828&`

`data=MOD08_D3_051_Optical_Depth_Land_And_Ocean_Mean&`

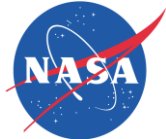
`variableFacets=dataFieldDiscipline%3AAerosols%3B`

Service

Time
Range

Bounding
Box

Data
Variable



Giovanni-4 URLs are Sharable and Reproducible

Service

Select Plot

Choose a plot type.

☒ Maps: Time-Averaged ☐ Comparisons: Select... ☐ Time Series: Select... ☐ Vertical: Select... ☐ Miscellaneous: Select...

Select Date Range (UTC)

YYYY-MM-DD

2001-01-01 00 hrs to 2001-01-31 23 hrs

Valid Range: 2000-03-01 to 2014-10-13

Select Region (Bounding Box)

Format: West, South, East, North

-124.4531, 24.2578, -68.2031, 52.3828

Bounding Box

Time Range

Select Variables

Disciplines

- ☒ Aerosols (118)
- ☐ Atmospheric Chemistry (12)
- ☐ Atmospheric Dynamics (62)
- ☐ Hydrology (16)
- ☐ Water and Energy Cycle (26)

Measurements

Platform / Instrument

Wavelengths

Spatial Resolutions

Temporal Resolutions

Portal

Number of matching Variables: 118 of 219

Total Variable(s) included in Plot: 1

Keyword :

Search Clear

	Variable Name	Source	Temp. Res.	Spat. Res.	Begin Date	End Date
<input checked="" type="checkbox"/>	Aerosol Optical Depth 550 nm (Dark Target) (MOD08_D3 v051)	MODIS-Terra	Daily	1 °	2000-03-01	2014-10-13
<input type="checkbox"/>	Aerosol Angstrom Exponent 550/865 nm (Dark Target, Ocean-only) (MOD08_D3 v051)	MODIS-Terra	Daily	1 °	2000-03-01	2014-10-13
<input type="checkbox"/>	Aerosol Angstrom Exponent 470/660 nm (Dark Target, Land-only) (MOD08_D3 v051)	MODIS-Terra	Daily	1 °	2000-03-01	2014-10-13
<input type="checkbox"/>	Pixel Count of Aerosol Optical Depth 550 nm (Dark Target) (MOD08_D3 v051)	MODIS-Terra	Daily	1 °	2000-03-01	2014-10-13
<input type="checkbox"/>	Aerosol Optical Depth 550 nm (Deep Blue, Land-only) (MOD08_D3 v051)	MODIS-Terra	Daily	1 °	2000-03-01	2007-12-31

Data Variable

Help

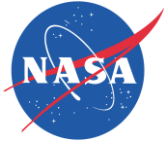
Reset

Feedback

Plot Data

GES - DISC

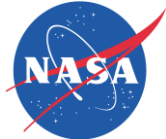
Goddard Earth Sciences
Data Information Services Center



Sharables

- Federated Giovanni
 - Hosted Service \$199.99 / day
 - Virtual Machine* €299.95 / node
 - Source Code ¥1.99 / SLOC
 - Variable-level Metadata £9.95 / dataset
 - AESIR database and EDDA interface
- Color palettes \$2.95 / color
 - Style Layer Descriptor URLs
- User-sharable (via URL)
 - Giovanni Workflows
 - OGC-Accessible Services (WMS, WCS)

*Computer and batteries not included



Sharables

- Federated Giovanni

- Hosted Service

\$199.99 / day

marked down to...

FREE!

- Virtual Machine*

€299.95 / node

marked down to...

FREE!

- Source Code

¥1.99 / SLOC

marked down to...

FREE!

- Variable-level Metadata

£9.95 / dataset

marked down to...

FREE!

- AESIR database and EDDA interface

- Color palettes

\$2.95 / color

marked down to...

FREE!

- Style Layer Descriptor URLs

- User-sharable (via URL)

- Giovanni Workflows

Free to good home

- OGC-Accessible Services (WMS, WCS)

*Computer and batteries not included